

REMARKS

Regarding the rejection of claims 1, 2, 13 and 16 under 35 USC 102(b) in view of US 576284 to van Buskirk:

As the Applicants have cancelled claims 1, 2, 13 and 16 in this paper (without prejudice or traverse) it is believed that the outstanding grounds of rejection in view of the van Buskirk reference is rendered moot thereby.

Regarding the rejection of claims 1, 2, 13 and 16 under 35 USC 102(b) in view of EP 0698660 A2 to Inoue:

As the Applicants have cancelled claims 1, 2, 13 and 16 in this paper (without prejudice or traverse) it is believed that the outstanding grounds of rejection in view of the Inoue reference is rendered moot thereby.

Regarding the rejection of claims 1, 2 4-9 and 11-18 under 35 USC 103(a) in view of US 5728667 to Richter.

The Applicants respectfully traverse the rejection which has been maintained by the Office based on the Richter prior art document.

As has been previously discussed in prior responses to the Office, the Richter compositions are generally directed towards a "germicidal light-duty aqueous dishwashing detergent composition". Richter's dishwashing compositions necessarily include "a quaternary ammonium germicidal compound, an anionic alkyl ether carboxylate, a further nonionic surfactant, a suds boosting agent, as well as further optional additives". One of appropriate skill in the art at the outset would realize that each of these are *essential* constituents, and are not readily casually omitted or substituted in a formulation. Specifically, as is taught by Richter, all embodiments of Richter's dishwashing detergents necessarily contain each of:

- a quaternary ammonium germicidal compound;
- an anionic alkyl ether carboxylate surfactant; and,
- further nonionic surfactant.

It is significant and pertinent to note that a glycoside surfactant is *not* described as being *essential* to Richter's compositions.

The Applicants continue their traversal of the Office's view that Richter's recitation of glycosides amongst Richter's description of a wide range of deterative surfactants which might be *optionally* included is sufficient and would encompass the Applicants' presently claimed invention. Again, the present Applicants strongly disagree.

As is known to the art, a key technical problem facing formulators in this area is the provision of a cleaning and disinfecting effective composition which at the same time, is of low irritancy. Quaternary ammonium compounds, such as included in the Applicants' compositions are primarily known and used as disinfecting agents and have found widespread commercial use. However, these same quaternary ammonium compounds are also known to suffer the potential for irritation of the eyes, nose and other mucous tissues of the body. Ideally, a successful cleaning and disinfecting composition would also exhibit no real irritancy potential to end-users of a product. As the literature shows, the attainment of such a treble goal is non-trivial and is rarely successfully reached.

A key shortcoming in the Office's positions lies in the fact that a skilled formulator, faced with the Richter reference would produce a composition which would be successful to satisfy the treble goals of cleaning, disinfecting and minimal or no irritancy. While the Richter reference indicates--amongst a myriad of deterative compounds, glycosides--the Applicants disagree that such a mention would render the presently claimed invention obvious. It is believed fair to say that the broad and sweeping delineation of other deterative surfactants by Richter provides no teaching or suggestion of the identification of any of these materials on the basis of any irritation mitigating effect. As such, it is fair to analogize Richter's recitation to that of any of a number of well-known chemical catalogs, such as *McCutcheon's Detergents and Emulsifiers*. This handbook/catalog also lists an extensive range of surfactants and surfactant species but by its mere generality it also suffers from an important shortcoming, in that it fails to provide any useful teaching or selection of specific surfactants, or how specific surfactants should be combined in order to reliably and predictably produce a composition having predetermined properties. Richter's recitation of his optional detergent compounds is similarly flawed; nowhere in the Richter specification is there any teaching or any suggestion whereby the skilled

practitioner would select amongst the many possible nonionic surfactants with the *intent* of providing a useful mitigating effect to the quaternary ammonium compound present in those compositions.

The attention of the Office is again directed to the Material Safety Data Sheet (MSDS) provided as an attachment to Appendix A which was retransmitted to the Office in the response filed 20.Dec.2001. As has been discussed in that response, the MSDS clearly states that "APG 325N, an alkylpolyglycoside surfactant, '.. causes eye irritation..' and contact with the eyes is to be avoided. As such, it is clear that the skilled artisan would, upon reading this very relevant information relating to the irritation potential of this alkylpolyglycoside surfactant would be dissuaded from incorporating this surfactant in any composition wherein irritation potential was a concern. Very likely indeed such a skilled artisan would scrupulously avoid the use of any material or constituent which posed any reasonable risk of irritation potential where contact with the eyes or mucosal tissues of a consumer was a measurable risk. In light of such a sound technical principle, and the adverse "teaching" which is discussed in "black-and-white" on the MSDS it is not seen how such a skilled artisan would go against these technical teachings and incorporate such a surfactant--absent the practice of an inventive step. Indeed, the present Applicants have gone totally against the relevant teaching in the art to find that--very surprisingly--that such alkylpolyglycoside surfactants, which are cautioned by their very manufacturers to "...cause[s] eye irritation..." would indeed have the opposite effect, that of an irritation *mitigator* !

Richter's broad recitations of commercially available surfactants however, for reasons stated above, does not provide any teaching why alkylpolyglycoside surfactants should be preferred over any of the other myriad optional surfactants which might be used, nor does Richter provide any teaching or suggestion which would overcome the known technical prejudices in the art against the use of alkylpolyglycoside surfactants and 'reverse' the technical teachings known to the skilled artisan. To date, the Office has not shown what motivation there would be in the art to use an alkylpolyglycoside surfactant, known to be an irritant, in a role which is directly contrary to its avowed properties (irritant) to provide an effect which could not be gleaned from a reading of the technical literature. Nothing in Richter can be seen as a

'teaching' which would preempt the technical prejudices known in the art, particularly as outlined in the MSDS which was provided previously to the Office.

In view of the foregoing it is also particularly relevant that Richter is silent as to the issue of 'mitigation', and particularly, is wholly silent as to discriminating which of his 'optional' surfactants might be selected to provide a mitigating benefit. Nothing in the Richter reference indeed suggests or identifies specific surfactant and/or combinations of surfactants which would be useful to providing a mitigating effect. Rather, the Richter reference is focused upon providing effective "foaming" while preserving the germicidal efficacy. However, providing the technical effect of "foaming" a technical effect which has little in common with the technical effect of "mitigation". These very different technical effects do not have a common nexus, and therefore there would be little impetus for the skilled practitioner to view the Richter reference with the intent of finding anything which would suggest selection of a compound for improved mitigation. Further none of Richter's example compositions demonstrate a glycoside nonionic surfactant. As such, it is not believed that the Richter composition can be properly viewed as teaching or suggesting the compositions according to the present invention, particularly in view of the arguments already presented on record.

The attention of the Office is again directed to the *Declaration of Robert Zhong Lu under 37 CFR 1.132* which has been previously transmitted to the Office, on 07.July.2000. That *Declaration* demonstrated various surfactants compositions, and their unpredictable effects on the final product formulation. Although each of these are individually mentioned in Richter's widespread recitation of nonionic surfactants, none are recited to be useful in providing any mitigating effect. Absent any specific teaching as to beneficial mitigating effects, each of these would also be equally likely to be used in a quaternary ammonium compound containing composition. However, as a comparison of the results reported on Table 3 illustrates, the effects of the inclusion of certain nonionic surfactants lead to surprising and unexpected results which could not in any way be discerned from the Richter reference, or from the general prior art. Clearly the *Declaration* illustrates that the important and significant results obtained require a foreknowledge of the properties of alkylpolyglycosides and their beneficial effects in a formulation. Such is however wholly lacking as Richter fails to provide the requisite teaching or even the merest hint or suggestion to identify and utilize alkylpolyglycosides in a manner which

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becomes apparent only after the present inventor's discovery. Certainly also, the MSDS for the APG 325N material, an alkylpolyglycoside surfactant is also particularly relevant in teaching that this material is a known "eye irritant", as has been discussed, *supra*.

Reconsideration of the propriety of the rejection based on U.S. Patent No. 5,728,667 to Richter, and withdrawal of the rejection, is respectfully requested.

Reconsideration of the bases of rejection in view of the amendments and remarks entered herein is respectfully requested. As the next communication, a *Notice of Allowance* is solicited.

Attached is a marked-up version of the changes being made by the current amendment.

Enclosed is a \$920.00 check for the Petition for Extension of Time fee. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 23 Sept 2002

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Version with markings to show changes made

In the claims:

Claims 1, 2, 13 and 16 have been cancelled without prejudice or traverse.

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